

Notice of Allowability

Application No.

10/662,358

Examiner

Malgorzata A. Walicka

Applicant(s)

LEE ET AL.

Art Unit

1652

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address--

All claims being allowable, PROSECUTION ON THE MERITS IS (OR REMAINS) CLOSED in this application. If not included herewith (or previously mailed), a Notice of Allowance (PTOL-85) or other appropriate communication will be mailed in due course. **THIS NOTICE OF ALLOWABILITY IS NOT A GRANT OF PATENT RIGHTS.** This application is subject to withdrawal from issue at the initiative of the Office or upon petition by the applicant. See 37 CFR 1.313 and MPEP 1308.

1. ☒ This communication is responsive to 07/07/2006.
2. ☒ The allowed claim(s) is/are 6-9,11,12 and 14.
3. ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
 - a) ☒ All b) ☐ Some* c) ☐ None of the:
 1. ☒ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this national stage application from the International Bureau (PCT Rule 17.2(a)).

* Certified copies not received: _____.

Applicant has THREE MONTHS FROM THE "MAILING DATE" of this communication to file a reply complying with the requirements noted below. Failure to timely comply will result in ABANDONMENT of this application.

THIS THREE-MONTH PERIOD IS NOT EXTENDABLE.

4. ☐ A SUBSTITUTE OATH OR DECLARATION must be submitted. Note the attached EXAMINER'S AMENDMENT or NOTICE OF INFORMAL PATENT APPLICATION (PTO-152) which gives reason(s) why the oath or declaration is deficient.
5. ☐ CORRECTED DRAWINGS (as "replacement sheets") must be submitted.
 - (a) ☐ including changes required by the Notice of Draftsperson's Patent Drawing Review (PTO-948) attached
 - 1) ☐ hereto or 2) ☐ to Paper No./Mail Date _____.
 - (b) ☐ including changes required by the attached Examiner's Amendment / Comment or in the Office action of Paper No./Mail Date _____.

Identifying indicia such as the application number (see 37 CFR 1.84(c)) should be written on the drawings in the front (not the back) of each sheet. Replacement sheet(s) should be labeled as such in the header according to 37 CFR 1.121(d).
6. ☐ DEPOSIT OF and/or INFORMATION about the deposit of BIOLOGICAL MATERIAL must be submitted. Note the attached Examiner's comment regarding REQUIREMENT FOR THE DEPOSIT OF BIOLOGICAL MATERIAL.

Attachment(s)

1. ☐ Notice of References Cited (PTO-892)
2. ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3. ☒ Information Disclosure Statements (PTO/SB/08),
Paper No./Mail Date _____
4. ☐ Examiner's Comment Regarding Requirement for Deposit
of Biological Material
5. ☐ Notice of Informal Patent Application
6. ☐ Interview Summary (PTO-413),
Paper No./Mail Date _____
7. ☒ Examiner's Amendment/Comment
8. ☒ Examiner's Statement of Reasons for Allowance
9. ☐ Other _____

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The Amendment filed on July 7, 2006 is acknowledged. Claims 6-9, 11-12 and 14 have been amended; claim 13 has been cancelled. Claims 6-12 and 14 are pending and under examination.

DETAIL ACTION

1. Rejections

1.1. 35 USC section 112, first paragraph

Written description and scope of enablement

Claims 6-14 were rejected in the office Action of April 7, 2006 (previous action), because they are directed to an extremely large genus of transformed bacteria and methods of their use. These rejections are now withdrawn because the instant amendment limits the scope of the claims.

2. Examiner's amendment

An examiner's amendment to the record appears below. Should the changes and/or additions be unacceptable to applicant, an amendment may be filed as provided by 37 CFR 1.312. To ensure consideration of such an amendment, it MUST be submitted no later than the payment of the issue fee.

In the claims: please cancel claim 10.

Authorization for this examiner's amendment was given in a telephone interview with Applicants' representative Sunny Lee on Oct. 2, 2006.

3. Allowance

Claims 6-9, 11-12 and 14 are allowed. The following is the examiner's reason for allowance. Applicants disclosed two novel transformants of *E. coli*:

- 1) *E. coli* wherein the *fadB* gene was deleted by applicants, and *maoC* gene of *E. coli* (SEQ ID NO: 1) and *phaC2_{Ps}* gene of *Pseudomonas* species were introduced, and

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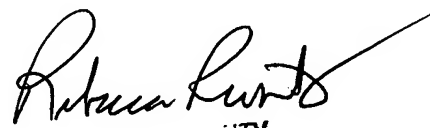
2) *E. coli* wherein the *fadB* gene was deleted, *maoC* gene was deleted and *maoC* gene of *E. coli* (SEQ ID NO: 1) and *phaC2_{Ps}* gene of *Pseudomonas* species introduced, and used these transformants for efficient production of middle-chain-length polyhydroxyalkanoate (MCL-PHA) consisting of monomers with 6-10 carbon atoms. Production of 3-hydroxyoctanoate (3HO) monomers and 3-hydroxydecanoate (3HD) monomers, which are synthesized in the process of production of MCL-PHA was also high; more than 30% of the product. The transformants are novel and nonobvious. The closest prior art (Langebach et al. FEMS Microbiol. Lett. 1997, 150, 303-309) teaches production of MCL-PHA by *fadB* mutants of *E. coli* transformed with *phaC1_{Pa}* gene of *Pseudomonas*, with efficiency that is 21.1% of cell dry weight. Tsuge et al. (FEMS Microbiol. Letters, 2000, 184, 193-198) teach production of MCL-PHA by *E. coli* transformed with *phaJ1* and *phaJ2* of *Pseudomonas* with efficiency 14-29% w/w of dry cell weight. Both publications are quoted in the IDS of Dec. 2, 2005. The claimed method produces MCL-PHA more efficiently: 44.6% w/w.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Malgorzata A. Walicka whose telephone number is (571) 272-0944. The examiner can normally be reached on Monday-Friday from 10:00 a.m. to 4:30 p.m.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Ponnathapura Achutamurthy, can be reached on (571) 272-0928. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Malgorzata A. Walicka, Ph.D.
Art Unit 1652
Patent Examiner


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